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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,661	08/02/2001	Michael Hohmann	MERCK2245	3177

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MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,661

Applicant(s)

HOHMANN ET AL.

Examiner

Elizabeth Quan

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 1,3,5 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. New corrected drawings are required in this application because they are hand drawn. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

3. Claim 3 is objected to because of the following informalities: "centring" should be "centering". Appropriate correction is required.

4. Claims 1, 5, and 7 are objected to because of the following informalities: It is recommended that insertion edges be distinguished by "first insertion edge" or "second insertion edge". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Claim 1 is rendered indefinite since it is unclear whether the interconnection support or the plate-like microcomponent has the at least one support rail. Also, the claim incorrectly recites that the slot has two sidewalls when it appears that the slot has more than 2 sidewalls in which the third sidewall is characterized as the centering stop in claim 3.

8. Claims 2 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The relationship between the line connections, screw connection, and threaded holes should be defined since the recitation makes the screw connection another element besides those recited in claim(s) 1 and/or 5 when it is actually a part of the line connections.

9. Regarding claim 3, the word "means" is preceded by the word(s) "a spring is arranged which acts in the longitudinal direction of the slot and by" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

10. Claim 4 is rendered indefinite since it is unclear what is the opposite sidewall. Also, the claim recites "threaded holes" as if there were more than one when antecedent basis has been given to only at least one threaded hole in claim 2.

11. Claim 6 recites the limitation "the threaded holes" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,519,635 to Miyake et al.

Miyake et al. disclose an interconnection support for plate-like microcomponents (11,12,13) (fig. 1). The support has at least one support rail, which is attached to a support plate, defining an insertion slot for the accommodation of an insertion edge of a plate-like microcomponent (11,12,13) (fig. 1). Line connections, which are provided in at least one of the two side walls of the insertion slot of the support rail, are connected to associated connections on the outside of the plate-like microcomponent (figs. 1 and 3).

14. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,507,707 to Willis.

Willis discloses an interconnection support (10) for plate-like microcomponents (14) (figs. 1-3). The support has at least one support rail, which is attached to a support plate (12), defining an insertion slot for the accommodation of an insertion edge of a plate-like microcomponent (figs. 1-3). Line connections, which are provided in at least one of the two side

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walls of the insertion slot of the support rail, are connected to associated connections on the outside of the plate-like microcomponent (figs. 1-3).

15. Claims 1, 5, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,731,698 to Millot et al.

Millot et al. disclose an interconnection support for plate-like microcomponents (fig. 2). The support has a support rail, which is attached to a support plate, defining an insertion slot for the accommodation of an insertion edge of a plate-like microcomponent (fig. 2). Line connections (32), which are provided in at least one of the two side walls of the insertion slot of the support rail, are connected to associated connections on the outside of the plate-like microcomponent (fig. 2). The support rail is connected to a connection rail/connection holder by the support plate (fig. 2). The connection rail/connection holder extends perpendicular to the support plate and has an insertion slot for the accommodation of another insertion edge of the plate-like microcomponent (fig. 2). Line connections are provided in at least one of the two sidewalls of the insertion slot of the connection rail/holder (fig. 2). Note: Claims 5 and 7 attempt to differentiate the connection rail and connection holder by the use of reference characters. However, the language does not differentiate the two elements, such that the rail of the prior art could be considered either the connection rail or connection holder since they both depend on independent claim 1.

16. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,349,039 to Boe.

Boe discloses an interconnection support for plate-like microcomponent (fig. 1). The support has at least one support rail, which is attached to a support plate, defining an insertion

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slot for the accommodation of an insertion edge of a plate-like microcomponent (fig. 1). Line connections, which are provided in at least one of the two side walls of the insertion slot of the support rail, are connected to associated connections on the outside of the plate-like microcomponent (fig. 1; col. 3, lines 28-34). The support rail is connected to a connection rail, which extends perpendicular to the support plate and has an insertion slot for the accommodation of another insertion edge of the plate-like microcomponent (fig. 1). A connection holder has an accommodation slot for yet another insertion edge of the microcomponent (fig. 1).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,507,707 to Willis.

Willis discloses electrical contact surfaces within the interior of the insertion slot corresponding to the electrical contacts on the outside of the plate-like microcomponent (figs. 1-3). An additional sidewall piece/support rail (24) contacts the support rails that form the insertion slot (fig. 3). The additional sidewall piece/support rail has a plurality of holes, which accommodates threaded screws (fig. 3). It appears that the accommodation of screws with threads in the holes would provide threads in the holes. Willis fails to disclose that the additional sidewall piece/support rail is integral with the sidewalls of the support rails forming the insertion slot. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the sidewall piece/support rail integral with the sidewalls of the support rails forming the insertion slot for manufacturing ease.

21. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,731,698 to Millot et al. in view of U.S. Patent No. 4,214,292 to Johnson.

Millot et al. fail to disclose springs. However, it would have been obvious to one having ordinary skill in the art to provide a spring component (26) at one end of the insertion slot that acts in the longitudinal direction of the slot such that the microcomponent is pressed against a centering stop at the other end of the insertion slot as a guide for ensuring smooth, catch-free end

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insertion of the microcomponent into the supporting slot as taught by Johnson (col. 1, line 54-col. 2, line 7; col. 2, line 29-col. 3, line 6).

22. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,731,698 to Millot et al.

Millot et al. show the use of screws for controlling support. Millot et al. fail to disclose a plurality of screws and associated threaded holes. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the support of Millot et al. to provide screws and associated threaded holes since they are well known alternative means to molding for keeping parts together. Additionally, it would have been obvious to use screws to provide a means for removable joining instead of permanent joining.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 4,322,776 to Job et al. discloses an interconnection support with a plurality of insertion slots for electronic modules. U.S. Patent No. 4,445,740 to Wallace discloses an interconnection support with an insertion slot for mounting a circuit board by receiving 3 of 4 sides of the circuit board. U.S. Patent No. 6,399,023 to Chow discloses an interconnection support with a side insertion slot for holding a sample substrate. U.S. Patent No. 6,399,394 to Dahm et al. show a plurality of plates mounted in a slot-like cavity. U.S. Patent No. 5,746,976 to Yamada et al. show analytical units housed within slots of a container case that has electrical and fluid connections that connect with corresponding connections of the analytical units. U.S. Patent No. 4,315,300 to Parmerlee et al. show modules supported in grooves in a pair of parallel sides. U.S. Patent No. 3,631,325 to Wenz show an interconnection support with

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insertions for mounting electrical components by receiving 3 of 4 sides of the electrical components.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elizabeth Quan
Examiner
Art Unit 1743

eq


Jill Warden
Supervisory Patent Examiner
Technology Center 1700